INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Frank O'Bannon
Governor

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Commissioner

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June 3, 2003

TO: Interested Parties / Applicant

RE: Safety & Environmental Resources, Inc. 141-17287-00166

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision - Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office Environmental Adjudication, ISTA Building, 150 W. Market Street, Suite 618, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for considerations at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures

FNPERAM.wpd 8/21/02

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Ms. Becky Brown
Safety & Environmental Resources, Inc.
P.O. Box 1308
Mishawaka, Indiana 46546

June 3, 2003

Dear Ms. Brown:

Re: Exempt Construction and Operation Status,
141-17287-00166

The application from Safety & Environmental Resources, Inc., received on February 25, 2003, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the operation of the wastewater storage/transfer and used oil treatment facility, located at 1122 Division Street, Mishawaka, Indiana, is classified as exempt from air pollution permit requirements:

(a) One (1) wastewater storage/transfer facility, constructed in 1998, with the maximum capacity to store 167,000 gallons of wastewater, exhausting through stacks F1 and F2, and consisting of the following equipment:
Fifteen (15) wastewater storage tanks (Tanks 4, 5, 6, 7, 8, G, H, L, M, N, Q, R, S, T, and U) with capacities of 20,100 gallons, 20,100 gallons, 20,100 gallons, 20,100 gallons, 20,100 gallons, 4,000 gallons, 5,000 gallons, 11,500 gallons, 5,500 gallons, 5,500 gallons, 7,500 gallons, 7,500 gallons, 7,500 gallons, 7,500 gallons, and 5,000 gallons, respectively.

(b) One (1) waste oil treatment facility, constructed in 1989, with a capacity to process 362 gallons of oil per hour, exhausting through stacks F1 and F2, and consists of the following equipment:
(1) Seven (7) storage tanks (Tanks 1, 2, 3, 9, 10, 11, 12) with capacities ranging between 6,750 gallons to 20,100 gallons; and
(2) Eleven (11) waste oil treatment tanks (Tanks A thru F, I, J, K, O, and P) with capacities of 7,500 gallons, 10,000 gallons, 2,800 gallons, 2,800 gallons, 4,000 gallons, 3,800 gallons, 11,500 gallons, 11,500 gallons, 12,500 gallons, 18,200 gallons, and 18,200 gallons, respectively.

(c) One (1) bulk petroleum storage facility, containing the following tanks:
(1) Five (5) tanks for mineral spirits (Tanks M1 through M5) with capacities of 1,750 gallons, 1,750 gallons, 1,750 gallons, 1,750 gallons and 2,750 gallons, respectively; and
(2) One (1) tank for diesel fuel storage (Tank T1) with a capacity of 10,500 gallons.

(d) Two (2) degreasing operations, constructed after 1980 and with combined annual solvent usage of 90 gallons per year.

(e) One (1) natural gas fired boiler with maximum heat input rate of 2.0 MMBtu/hr, installed in 1997, and exhausting to stack B1.

(f) Two (2) natural gas fired power washers, each with maximum heat input rate of 0.35 MMBtu/hr.

(g) Storage vessels storing lubricants.

(h) Laboratory operation as defined in 326 IAC 2-7-1(21)(C).

(i) Touch up painting of parts washers.

The following conditions shall be applicable:

(1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
   (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
   (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

(2) Pursuant to 326 IAC 6-2-4(a) (Particulate Emission Limitations for Sources of Indirect Heating) the particulate emissions from the one natural gas fired boiler and the two (2) parts washers shall be limited to 0.6 pounds per MMBtu heat input.

(3) Pursuant to 40 CFR Part 60.110b, Subpart Kb (Standards of Performance for Volatile Organic Liquid Storage Vessels), storage tanks identified as Tank L, O and P, with a storage capacity of greater than 40 cubic meters and less than 75 cubic meters, are subject to following record keeping requirements.

   The Permittee shall maintain permanent records at the source in accordance with (1) through (2) below:
   (1) the dimension of the storage vessel; and
   (2) an analysis showing the capacity of the storage vessel.

(4) Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operation), the owner or operator of the two (2) degreasers shall:

   (a) Equip the cleaner with a cover;

   (b) Equip the cleaner with a facility for draining cleaned parts;

   (c) Close the degreaser cover whenever parts are not being handled in the cleaner;

   (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

   (e) Provide a permanent, conspicuous label summarizing the operation requirements;

   (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

The above listed emission units were originally permitted in Part 70 permit No. 141-13475-00166, issued December 31, 1998. However, the permitting level of the source has been updated to be at exemption level due to process changes at the source and the correction to the emission calculation methodology.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

AY/EVP

cc: File - St. Joseph County
St. Joseph County Health Department
Air Compliance - Rick Reynolds
IDEM Northern Regional Office
Permit Tracking
Air Programs Section- Michelle Boner

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name: Safety & Environmental Resources, Inc.
Source Location: 1122 Division Street, Mishawaka, Indiana 46545
County: St. Joseph
SIC Code: 9511
Operation Permit No.: 141-17287-00166
Permit Reviewer: Adeel Yousuf / EVP

The Office of Air Quality (OAQ) has reviewed an application from Safety & Environmental Resources, Inc. relating to the operation of a wastewater storage/transfer and used oil treatment facility.

History

Safety & Environmental Resources, Inc. (SER) submitted an application on February 25, 2003 for a Title V permit renewal. SER was issued a Title V permit (141-7673-00166) on December 31, 1998. During this permit renewal process, the permitting level of the source has been determined to be at exemption level due to process changes at the source and a correction to the emission calculation methodology.

The following changes have been made at the source:
1. Elimination of the solids processing operation
2. Conversion of the 2.0 MMBtu/hr heat input boiler from No. 2 diesel fuel to natural gas.
3. Elimination of the use of sulfuric acid in oil processing applications.

In addition, emission calculations for the wastewater storage/transfer facility in the original Title V permit (141-7673-00166) were done incorrectly. Safety & Environmental Resources, Inc. is a transfer facility for non-RCRA regulated wastewater. Wastewater that is collected from various generators is hauled to the SER facility and placed into storage tanks for the purpose of collection. Wastewater is shipped to SER's parent company for treatment. Wastewater collection is limited by the Resource Conservation and Recovery Act (RCRA) influent limits and process limits of the parent treatment facility. No more than 100 ppm VOC can be accepted in the wastewater streams based upon the treatment facility's design specifications. Therefore, due to the process limitation, the maximum VOC concentration that can be present in the wastewater collected is 100 ppm. Wastewater could contain HAPs concentrations as well as some of the compounds which qualify as both VOC and HAP. Therefore, the maximum single HAP emission rate from the wastewater facility is equal to the maximum emission rate of VOC (100 ppm). The combined total HAP limit is equal to the maximum VOC limit (100 ppm) plus the allowable concentration of metals. The combination of VOC/HAP may change, however, the total can not exceed 100 ppm. Emission calculations done for the original Title V permit, didn't take into account the VOC process limitation limit of 100 ppm, but instead emissions from all pollutants were calculated based on the RCRA limit and were summed up to calculate total VOC and combined HAPs emissions of 36.82 and 30.43 tons per year, respectively. However, during the permit renewal process, the total VOC and combined HAPs emissions are calculated to be 3.20 and 3.75 tons per year, respectively, based on the maximum possible VOC/HAP concentration of 100 ppm in the wastewater (see Pages 2 and 3 of Appendix A for detailed emission calculations). The potential to emit of all the regulated pollutants for the emission units at the source is lower than the registration applicability thresholds, therefore the source status has changed to an exemption level.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) One (1) wastewater storage/transfer facility, constructed in 1998, with the maximum capacity to store 167,000 gallons of wastewater, exhausting through stacks F1 and F2, and consisting of the following equipment:
Fifteen (15) wastewater storage tanks (Tanks 4, 5, 6, 7, 8, G, H, L, M, N, Q, R, S, T, and U) with capacities of 20,100 gallons, 20,100 gallons, 20,100 gallons, 20,100 gallons, 20,100 gallons, 4,000 gallons, 5,000 gallons, 11,500 gallons, 5,500 gallons, 5,500 gallons, 7,500 gallons, 7,500 gallons, 7,500 gallons, 7,500 gallons, and 5,000 gallons, respectively.

(b) One (1) waste oil treatment facility, constructed in 1989, with a capacity to process 362 gallons of oil per hour, exhausting through stacks F1 and F2, and consists of the following equipment:
(1) Seven (7) storage tanks (Tanks 1, 2, 3, 9, 10, 11, 12) with capacities ranging between 6,750 gallons to 20,100 gallons; and
(2) Eleven (11) waste oil treatment tanks (Tanks A thru F, I, J, K, O, and P) with capacities of 7,500 gallons, 10,000 gallons, 2,800 gallons, 2,800 gallons, 4,000 gallons, 3,800 gallons, 11,500 gallons, 11,500 gallons, 12,500 gallons, 18,200 gallons, and 18,200 gallons, respectively.

(c) One (1) bulk petroleum storage facility, containing the following tanks:
(1) Five (5) tanks for mineral spirits (Tanks M1 through M5) with capacities of 1,750 gallons, 1,750 gallons, 1,750 gallons, 1,750 gallons and 2,750 gallons, respectively; and
(2) One (1) tank for diesel fuel storage (Tank T1) with a capacity of 10,500 gallons.

(d) Two (2) degreasing operations, constructed after 1980 and with combined annual solvent usage of 90 gallons per year.

(e) One (1) natural gas fired boiler with maximum heat input rate of 2.0 MMBtu/hr, installed in 1997, and exhausting to stack B1.

(f) Two (2) natural gas fired power washers, each with maximum heat input rate of 0.35 MMBtu/hr.

(g) Storage vessels storing lubricants.

(h) Laboratory operation as defined in 326 IAC 2-7-1(21)(C).

(i) Touch up painting of parts washers.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

(a) Part 70 Permit No. 141-7673-00166, issued on December 31, 1998.

(b) First Permit Reopening 141-13475-00166, issued on February 13, 2002.

(c) First Administrative Amendment 141-16072-00166, issued on October 4, 2002.

All previous approvals and permits are superseded by this permit.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the operation of this wastewater storage/transfer and used oil treatment facility be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on February 25, 2003, with additional information received on April 4 and May 12, 2003.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (Appendix A, pages 1 through 9).

Potential To Emit of Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential To Emit (tons/year)
PM	negl.
PM-10	0.10
SO_2	negl.
VOC	7.78
CO	1.00
NO_x	1.20

HAP's	Potential To Emit (tons/year)
Worst case single volatile HAP	3.20
Arsenic	0.16
Cadmium	0.03
Chromium	0.16
Lead	0.16
Mercury	0.006
Selenium	0.032
TOTAL	3.75

(a) The potential to emit of all the regulated pollutants for the emission units at the source is lower than the registration applicability thresholds stated in 326 IAC 2-7-10.5(d)(4). Therefore, pursuant to 326 IAC 2-1.1-3(d)(3), this is an exempt source.

County Attainment Status

The source is located in St. Joseph County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	unclassifiable

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. St. Joseph County has been designated as attainment or unclassifiable for ozone.

(b) St. Joseph county has been classified as attainment or unclassifiable for all other criteria pollutants.

Federal Rule Applicability

(a) Storage tanks identified as Tank 4, 5, 6, 7, 8, 1, 2, 3, 9, 10, 11 and 12 are not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Parts 60.110, 110a-115a or 110b-117b, Subparts K, Ka and Kb), because these tanks were all constructed in 1960, prior to the earliest applicability date of June 11, 1973 for Subpart K, Ka or Kb.

(b) Storage tanks identified as Tank G, H, M, N, Q, R, S, T, U, A, B, C, D, E, F and T1, installed between 1960 and 1978, are not subject to the requirements of 326 IAC 12, (40 CFR Parts 60.110, 110a - 115a or 110b - 117b, as Subparts K, Ka, and Kb, respectively) since each have capacities of less than 40 cubic meters (m^3) (10,567 gallons), and are therefore not subject to this rule.

(c) Storage tanks identified as Tank I, J and K, are not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.110a, Subpart Ka), because each tank, constructed in 1978, has a storage capacity less than 40,000 gallons.

(d) Storage tanks identified as Tank L, O and P are subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.110, Subpart Kb) where construction, reconstruction, or modification commenced after July 23, 1984. Each tank has storage capacity of greater than 40 cubic meters (m^3) (10,567 gallons) and less than 75 m^3 (19,813 gallons), therefore, pursuant to 40 CFR 60.110b(b), these tanks are exempt from all other provisions of this Subpart except 60.116b, which requires that permanent records be maintained showing dimensions and an analysis of the capacities of each tank.

(e) One (1) natural gas fired boiler constructed in 1997, rated at 2.0 MMBtu per hour is not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR 60.40c, Subpart Dc) because the boiler's capacity is less than the rule applicability threshold of 10 MMBtu per hour.

(f) The wastewater treatment facility, waste oil treatment facility and solids processing facility are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63.680, Subpart DD. The plant site is not a major source of hazardous pollutant (HAP) emissions as defined in 40 CFR 63.2.

(c) The two degreasing operations are not subject to the National Emission Standards for Hazardous Air Pollutants, 326 IAC 20, (40 CFR 63, Subpart T). Subpart T applies to degreasing operations using one of six listed halogenated solvents, or any combination of the solvents in a concentration greater than 5 percent by weight, as a cleaning or drying agent. The source uses part washing solvent which contains no halogenated solvent, therefore, Subpart T does not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than 100 tons per year,
(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
(c) any combination of HAPs is less than 25 tons/year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAQ inspector assigned to the source.

State Rule Applicability - Entire Source

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of this source will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-6 (Emission Reporting)

This source is located in St. Joseph County which is one of the specifically regulated counties, but the potential to emit VOC and NOx is less than ten (10) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 6-2-1 (Particulate Emission Limitations for Sources of Indirect Heating)

The PM emissions from the two (2) power washers and one (1) boiler shall be limited by the following:

(a) The two (2) power washers, with a combined maximum heat input capacity of 0.70 MMBtu per hour, each constructed in 1989, are subject to 326 IAC 6-2-4. Pursuant to this rule, PM emissions from indirect heating facilities existing and in operation after September 21, 1983, shall be limited by the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

$$Pt = \frac{1.09}{0.70^{0.26}} = 1.20 \text{ lb/MMBtu}$$

The allowable PM emission rate from the two (2) power washers, based on the above equation, is 1.20 pounds per MMBtu heat input. However, pursuant to 326 IAC 6-2-4(a), the allowable PM emission rate, from facilities with heat input rating of less than 10 MMBtu per hour, shall in no case exceed 0.6 pounds per MMBtu heat input. Therefore, the allowable PM emission rate from the two (2) power washers is limited to 0.6 pounds per MMBtu heat input. The two (2) power washers have a potential PM emission rate of 0.0019 pounds per MMBtu heat input, therefore, they will comply with 326 IAC 6-2-3.

(b) The one (1) boiler, with a maximum heat input capacity of 2.0 MMBtu per hour, constructed in 1997, is subject to 326 IAC 6-2-4. Pursuant to this rule, PM emissions from indirect heating facilities existing and in operation after September 21, 1983, shall be limited by the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

$$Pt = \frac{1.09}{2.7^{0.26}} = 0.84 \text{ lb/MMBtu}$$

The allowable PM emission rate from the boiler, based on the above equation, is 0.84 pounds per MMBtu heat input. However, pursuant to 326 IAC 6-2-4(a), the allowable PM emission rate, from facilities with heat input rating of less than 10 MMBtu per hour, shall in no case exceed 0.6 pounds per MMBtu heat input. Therefore, the allowable PM emission rate from boiler is limited to 0.6 pounds per MMBtu heat input. The boiler has a potential PM emission rate of 0.0019 pounds per MMBtu heat input, therefore, it will comply with 326 IAC 6-2-3.

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

The requirement to reduce VOC emissions using the Best Available Control Technology (BACT) does not apply to this facility because VOC emissions are less than twenty-five (25) tons per year.

326 IAC 8-3-2 (Cold Cleaner Operation)

This rule applies to new facilities after January 1, 1980, performing organic solvent degreasing operations located anywhere in the state. The two (2) degreasing operations, each constructed after the rule applicability date of January 1, 1980, are subject to 326 IAC 8-3-2.

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operation), the owner or operator shall:

(a) Equip the cleaner with a cover;

(b) Equip the cleaner with a facility for draining cleaned parts;

(c) Close the degreaser cover whenever parts are not being handled in the cleaner;

(d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(e) Provide a permanent, conspicuous label summarizing the operation requirements;

(f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control)

The requirements of this rule apply to cold cleaning degreasers without remote solvent reservoir that either existed as of July 1, 1990 and was located in a specified county, or the cleaning facility was constructed after July 1, 1990 and was located in anywhere in the state. This source, located in St. Joseph County which is a listed county, is not subject to the applicable rule requirements since each degreaser has a remote solvent reservoir.

326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)

The source is not subject to 326 IAC 8-4-3 (Petroleum Liquid Storage Facilities) because all the petroleum liquid storage vessels have capacities less than 39,000 gallons.

326 IAC 8-4-4 (Bulk Gasoline Terminal)

This source is not subject to the requirements of this rule because the source does not load any gasoline and is therefore, not a bulk gasoline terminal.

326 IAC 8-9 (Volatile Organic Liquid Vessels)

This rule does not apply as this source is not located in Clark, Floyd, Lake, or Porter Counties.

There are no other 326 IAC 8 rules that apply to this source.

Conclusion

The operation of this wastewater storage/transfer and used oil treatment facility shall be subject to the conditions of the attached proposed Exemption No. 141-17287-00166.

Appendix A: Emission Calculations

Company Name: Safety & Environmental Resources, Inc.
Address City IN Zip: 1122 Division Street, Mishawaka, IN 46545
Permit No.: 141-17287
Plt ID: 141-00166
Reviewer: Adeel Yousuf / EVP
Date: 06/03/03

Uncontrolled Potential Emissions (tons/year)

	Emissions Generating Activity					
Pollutant	Wastewater Storage/Trasfer Facility	Waste Oil Treatment	Mineral Spirits & Diesel Storage	Natural Gas Combustion	Touchup Painting Parts Washers	**TOTAL**
PM	0.00	0.00	0.00	0.00	0.00	0.00
PM10	0.00	0.00	0.00	0.10	0.00	0.10
SO2	0.00	0.00	0.00	0.00	0.00	0.00
NOx	0.00	0.00	0.00	1.20	0.00	1.20
VOC	3.20	3.90	0.27	0.10	0.31	7.78
CO	0.00	0.00	0.00	1.00	0.00	1.00
total HAPs	3.75	0.96	0.00	negl.	0.00	4.71
worst case single HAP	3.20	0.34	0.00	negl.	0.00	3.54

See attached spreadsheets from source for full calculations.
Total emissions based on rated capacity at 8,760 hours/year.

Controlled Potential Emissions (tons/year)

	Emissions Generating Activity					
Pollutant	Wastewater Storage/Trasfer Facility	Waste Oil Treatment	Mineral Spirits & Diesel Storage	Natural Gas Combustion	Touchup Painting Parts Washers	**TOTAL**
PM	0.00	0.00	0.00	0.00	0.00	0.00
PM10	0.00	0.00	0.00	0.10	0.00	0.10
SO2	0.00	0.00	0.00	0.00	0.00	0.00
NOx	0.00	0.00	0.00	1.20	0.00	1.20
VOC	3.20	3.90	0.27	0.10	0.31	7.47
CO	0.00	0.00	0.00	1.00	0.00	1.00
total HAPs	3.75	0.96	0.00	negl.	0.00	4.71
worst case single HAP	3.20	0.34	0.00	negl.	0.00	3.54

See attached spreadsheets from source for full calculations.
Total emissions based on rated capacity at 8,760 hours/year, after control.

APPENDIX A: Emission Calculations

Company Name: Safety & Environmental Resources, Inc.
Address City IN Zip: 1122 Division Street, Mishawaka, IN 46545
Permit No.: 141-17287-00166
Reviewer: Adeel Yousuf / EVP
Date: 05/10/03

A. Wastewater Storage Operations

Description:
Wastewater is collected and shipped to SER's parent company for treatment. Wastewater collection is limited by Resource Conservation and Recovery Act (RCRA) influent limits and process limits of the parent treatment facility. No more than 100 ppm VOC can be accepted in the wastewater streams based upon the treatment facility's design specifications. Therefore, due to the process design, a limit of total VOC of 100 ppm applies and every different combination of VOC/HAPs can not exceed this 100 ppm limit

Pollutants for the purposes of air emissions considerations are volatile and semi-volatile organic compounds associated with synthetic coolants and incidental materials that contact the spent materials.

Following are the allowable limits for each pollutant for the wastewater storage operation:

Pollutant			Note	Limit	Units	Type of Limit
Total VOC and SVOC Concentration				**100.000**	**mg/L**	**Process treatment limit**
Benzene				0.500	mg/L	RCRA TCLP
Carbon Tetrachloride				0.500	mg/L	RCRA TCLP
Chlorobenzene				100.000	mg/L	RCRA TCLP
Chloroform				6.000	mg/L	RCRA TCLP
1,4-Dichlorobenzene				7.500	mg/L	RCRA TCLP
1,2-Dichloroethane				0.500	mg/L	RCRA TCLP
1,1-Dichloroethylene				0.700	mg/L	RCRA TCLP
Ethyl Benzene			#	100.000	mg/L	RCRA TCLP
Methyl Ethyl Ketone			#	100.000	mg/L	Process treatment limit
Tetrachloroethylene				0.700	mg/L	RCRA TCLP
Trichloroethylene				0.500	mg/L	RCRA TCLP
Toluene			#	100.000	mg/L	Process treatment limit
Xylene			#	100.000	mg/L	Process treatment limit
Vinyl Chloride			#-1	0.200	mg/L	RCRA TCLP
o-Cresol			#-1	100.000	mg/L	RCRA TCLP
m-Cresol			#-1	100.000	mg/L	RCRA TCLP
p-Cresol				100.000	mg/L	RCRA TCLP
2,4-Dinitrotoluene				0.130	mg/L	RCRA TCLP
Hexachlorobenzene				0.130	mg/L	RCRA TCLP
Hexachloro-1,3-butidiene				0.500	mg/L	RCRA TCLP
Hexachloroethane				3.000	mg/L	RCRA TCLP
Nitrobenzene				2.000	mg/L	RCRA TCLP
Pentachlorophenol				100.000	mg/L	RCRA TCLP
Pyridine				5.000	mg/L	RCRA TCLP
2,4,5-Trichlorophenol			#-2	100.000	mg/L	RCRA TCLP
2,4,6-Trichlorophenol				2.000	mg/L	RCRA TCLP
Arsenic				5.000	mg/L	RCRA TCLP
Barium				100.000	mg/L	RCRA TCLP
Cadmium				1.000	mg/L	RCRA TCLP
Chromium				5.000	mg/L	RCRA TCLP
Lead				5.000	mg/L	RCRA TCLP
Mercury				0.200	mg/L	RCRA TCLP
Selenium				1.000	mg/L	RCRA TCLP
Silver				5.000	mg/L	RCRA TCLP
Chlordane			#-3	0.000	mg/L	POTW Limit
Endrin			#-3	0.000	mg/L	POTW Limit
Heptachlor			#-3	0.000	mg/L	POTW Limit
Lindane			#-3	0.000	mg/L	POTW Limit
Methoxychlor			#-3	0.000	mg/L	POTW Limit
Toxaphene			#-3	0.000	mg/L	POTW Limit
2,4-D			#-3	0.000	mg/L	POTW Limit
2,4,5-TP			#-3	0.000	mg/L	POTW Limit

Notes:
- Indicates where the default limit of 100 ppm applies
#-1 Actual TCLP limit = 200.00 mg/L
#-2 Actual TCLP limit = 400.00 mg/L
#-3 These chemicals are prohibited by TSCA are not accepted by SER for treatment.

SER has the capability to store 162,000 gallons of wastewater any one time.
Transportation requirements limit influent wastewater storage to 21,000 gallons per day.

The annual pounds of wastewater throughput to this facility is calculated as follows:

21,000.0 gal/day	365 day/yr	8.34 lb/gal	63,926,100.0 lb/yr
			7,297.5 lb/hr

Pollutant			Potential Emissions (lb/yr)			tons/yr
Total VOC and SVOC Concentration				**6,393**		**3.196**
Benzene			HAP	32		0.016
Carbon Tetrachloride			HAP	32		0.016
Chlorobenzene			HAP	6,393		3.196
Chloroform			HAP	384		0.192
1,4-Dichlorobenzene			HAP	479		0.240
1,2-Dichloroethane			HAP	32		0.016
1,1-Dichloroethylene			HAP	45		0.022
Ethyl Benzene			HAP	6,393		3.196
Methyl Ethyl Ketone			HAP	6,393		3.196
Tetrachloroethylene			HAP	45		0.022
Trichloroethylene			HAP	32		0.016
Toluene			HAP	6,393		3.196
Xylene			HAP	6,393		3.196
Vinyl Chloride			HAP	13		0.006
o-Cresol			HAP	6,393		3.196
m-Cresol			HAP	6,393		3.196
p-Cresol			HAP	6,393		3.196
2,4-Dinitrotoluene			HAP	8		0.004
Hexachlorobenzene			HAP	8		0.004
Hexachloro-1,3-butidiene			HAP	32		0.016
Hexachloroethane			HAP	192		0.096
Nitrobenzene			HAP	128		0.064
Pentachlorophenol			HAP	6,393		3.196
Pyridine				320		0.160
2,4,5-Trichlorophenol			HAP	6,393		3.196
2,4,6-Trichlorophenol			HAP	128		0.064
Arsenic			HAP	320		0.160
Barium				6,393		3.196
Cadmium			HAP	64		0.032
Chromium			HAP	320		0.160
Lead			HAP	320		0.160
Mercury			HAP	13		0.006
Selenium			HAP	64		0.032
Silver				320		0.160
Chlordane			HAP	N/A		N/A
Endrin			HAP	N/A		N/A
Heptachlor			HAP	N/A		N/A
Lindane			HAP	N/A		N/A
Methoxychlor			HAP	N/A		N/A
Toxaphene			HAP	N/A		N/A
2,4-D			HAP	N/A		N/A
2,4,5-TP			HAP	N/A		N/A

Total VOC PTE (@ max. possible cocentration of 100 ppm):	**3.196**
Single Largest HAP (@ max. possible concentration of 100 ppm):	**3.196**
Total PTE of VOC/HAPs + Metal HAPs:	**3.746**

Notes:

1) HAPs labeled as "HAP"
2) For the purpose of calculating PTE, 100% of the VOC content is assumed lost during handling. Therefore no breathing or evaporative losses are calculated.
3) As the maximum allowable VOC concentration is 100 ppm, no single HAP as a VOC or SVOC can be emitted in excess of this limit. For HAPs that exceed the total limit, the total limit upper threshold applies. All other HAPs are limited to their respective influent limits. The aggregate limit for VOCs and SVOCs cannot exceed the influent upper limit.
4) Metals are also limited to a concentration of 100.00 based upon the limitations of the treatment process.
5) SEROS does not accept wastestreams that contain pesticides or herbicides.

Company Name: Safety & Environmental Resources, Inc.
Address City IN Zip: 1122 Division Street, Mishawaka, IN 46545
Permit No.: 141-17287-00166
Reviewer: Adeel Yousuf / EVP
Date: 05/10/03

B. Used Oil Storage and Processing

1. Used Oil Processing Capacity & VOC/HAP Data

31000 gal/ 3 day | 0.84 Specific Gravity | 8.34 lb/gal | 72,391.20 lb/day | 3,016.30 lb/hr | 430.56 gal/hr

VOC Content:

Mineral Spirits		10.4%
Benzene		1.0%
Ethyl Benzene		1.0%
Toluene		1.0%
Xylene		1.0%
Total VOC Content:		14.4%

Notes:
1) SER processes waste crankcase oils, UST bottoms, and spent lubricants to produce a secondary fuel. This secondary fuel is in turn sold as a fuel stock to processing operations such as asphalt manufacturers. SEROS has the capacity to process 31,000 gallons of secondary fuel per 72 hour period.
2) ASTM Method 24 Testing on the waste oil stream revealed that the waste oil contains 14.4% VOC by weight. Therefore, 14.4% is used for all processing calculations to determine VOC emissions. SW-846 Method 8020 shows an average Benzene, Ethyl Benzene, Toluene, and Xylene concentration of 10,000 mg/L each. Therefore, 1.0% of the total weight processed is assumed to be from these HAPs.

2. Breathing Losses

The materials processed contain high molecular weight, low vapor pressure products. Emissions losses are in the form of breathing and working losses. The materials stored in the processing tanks are heated to 180 degrees F.

The sum of the breathing losses for all waste oil processing tanks is as follows:

Tank	Constant	Mv	[P/(Pa-P)]^0.68	D^1.73	H^0.51	dT^0.50	Fp	C	Kc	Percent VOC	Result Lb/Yr	Percent Single HAP	Result Lb/Yr	Percent Combined HAPs	Result Lb/Yr
A	0.0226	1250	0.1006	58.43	2.44	11.62	1	0.25	1	14.4%	169.49	1.0%	11.77	4.00%	47.08
B	0.0226	1250	0.1006	73.62	2.49	11.62	1	0.25	1	14.4%	217.93	1.0%	15.13	4.00%	60.54
C	0.0226	1250	0.1006	36.5	1.96	4.47	1	0.25	1	14.4%	32.72	1.0%	2.27	4.00%	9.09
D	0.0226	1250	0.1006	36.5	1.96	4.47	1	0.25	1	14.4%	32.72	1.0%	2.27	4.00%	9.09
E	0.0226	1250	0.1006	28.97	2.7	4.47	1	0.25	1	14.4%	35.77	1.0%	2.48	4.00%	9.94
F	0.0226	1250	0.1006	36.5	2.27	4.47	1	0.25	1	14.4%	37.89	1.0%	2.63	4.00%	10.53
I	0.0226	1250	0.1006	73.62	2.65	4.47	1	0.25	1	14.4%	89.22	1.0%	6.20	4.00%	24.78
J	0.0226	1250	0.1006	73.62	2.65	11.62	1	0.25	1	14.4%	231.94	1.0%	16.11	4.00%	64.43
K	0.0226	1250	0.1006	73.62	2.79	11.62	1	0.25	1	14.4%	244.19	1.0%	16.96	4.00%	67.83
O	0.0226	1250	0.1006	73.62	3.36	11.62	1	0.25	1	14.4%	294.08	1.0%	20.42	4.00%	81.69
P	0.0226	1250	0.1006	73.62	3.36	11.62	1	0.25	1	14.4%	294.08	1.0%	20.42	4.00%	81.69
1	0.0226	1250	0.1006	58.43	3.48	4.47	1	0.25	1	14.4%	92.99	1.0%	6.46	4.00%	25.83
2	0.0226	1250	0.1006	36.5	3.07	4.47	1	0.25	1	14.4%	51.25	1.0%	3.56	4.00%	14.23
3	0.0226	1250	0.1006	58.43	4.05	4.47	1	0.25	1	14.4%	108.22	1.0%	7.52	4.00%	30.06
9	0.0226	1250	0.1006	58.43	4.05	4.47	1	0.25	1	14.4%	108.22	1.0%	7.52	4.00%	30.06
10	0.0226	1250	0.1006	58.43	4.05	4.47	1	0.25	1	14.4%	108.22	1.0%	7.52	4.00%	30.06
11	0.0226	1250	0.1006	58.43	4.05	4.47	1	0.25	1	14.4%	108.22	1.0%	7.52	4.00%	30.06
12	0.0226	1250	0.1006	58.43	4.05	4.47	1	0.25	1	14.4%	108.22	1.0%	7.52	4.00%	30.06
										Total (lb/yr):	**2365.37**		**164.26**		**657.05**
										Total (tons/yr):	**1.18**		**0.08**		**0.33**

Methodology:
The breathing losses are calculated as follows:
Emissions (lb/yr) = 2.26E-2 x Mv x [P/Pa-P]^0.68 x D^1.73 x H^0.51 x dT^0.50 x Fp x C x Kc

Where:
- Mv — Molecular Weight of Vapor in the storage tank (lb/lb mole)
- P — Pressure drop in psi
- D — Tank diameter in feet
- H — 1/2 Tank height in feet
- dT — Temperature difference F
- C — Adjustment factor for small diameter tanks

3. Working Losses

The sum of the working losses for all waste oil processing tanks is as follows:

Tank	Constant	Mv	P	V	N	Kn	Kc	Percent VOC	Result Lb/Yr	Percent Single HAP	Result Lb/Yr	Percent Combined HAPs	Result Lb/Yr
A	0.000024	1250	0.5	7,500	16.76	0.44	1	14.4%	119.47	1.0%	8.30	4.00%	33.18
B	0.000024	1250	0.5	10,000	16.76	0.44	1	14.4%	159.29	1.0%	11.06	4.00%	44.25
C	0.000024	1250	0.5	2,800	16.76	0.44	1	14.4%	44.60	1.0%	3.10	4.00%	12.39
D	0.000024	1250	0.5	2,800	16.76	0.44	1	14.4%	44.60	1.0%	3.10	4.00%	12.39
E	0.000024	1250	0.5	4,000	16.76	0.44	1	14.4%	63.71	1.0%	4.42	4.00%	17.70
F	0.000024	1250	0.5	3,800	16.76	0.44	1	14.4%	60.53	1.0%	4.20	4.00%	16.81
I	0.000024	1250	0.5	11,500	16.76	0.44	1	14.4%	183.18	1.0%	12.72	4.00%	50.88
J	0.000024	1250	0.5	11,500	16.76	0.44	1	14.4%	183.18	1.0%	12.72	4.00%	50.88
K	0.000024	1250	0.5	12,500	16.76	0.44	1	14.4%	199.11	1.0%	13.83	4.00%	55.31
O	0.000024	1250	0.5	18,200	16.76	0.44	1	14.4%	289.90	1.0%	20.13	4.00%	80.53
P	0.000024	1250	0.5	18,200	16.76	0.44	1	14.4%	289.90	1.0%	20.13	4.00%	80.53
1	0.000024	1250	0.5	15,000	16.76	0.44	1	14.4%	238.93	1.0%	16.59	4.00%	66.37
2	0.000024	1250	0.5	6,750	16.76	0.44	1	14.4%	107.52	1.0%	7.47	4.00%	29.87
3	0.000024	1250	0.5	20,100	16.76	0.44	1	14.4%	320.17	1.0%	22.23	4.00%	88.94
9	0.000024	1250	0.5	20,100	16.76	0.44	1	14.4%	320.17	1.0%	22.23	4.00%	88.94
10	0.000024	1250	0.5	20,100	16.76	0.44	1	14.4%	320.17	1.0%	22.23	4.00%	88.94
11	0.000024	1250	0.5	20,100	16.76	0.44	1	14.4%	320.17	1.0%	22.23	4.00%	88.94
12	0.000024	1250	0.5	20,100	16.76	0.44	1	14.4%	320.17	1.0%	22.23	4.00%	88.94
								Total (lb/yr):	**3584.75**		**248.94**		**995.77**
								Total (tons/yr):	**1.79**		**0.12**		**0.50**

Methodology:
The working losses are calculated as follows:
Emissions (lb/yr) = 2.4E-5 x Mv x P x V x N x Kn x Kc

Where:	Mv	Molecular Weight of Vapor in the storage tank (lb/lb mole)
	P	Pressure drop in psi
	V	Tank Volume in gallons
	N	Turnovers per year
	Kn	Adjustment factor for small diameter tanks
	Kc	Product factor

4. Chemical Treatment

In addition to the working and breathing losses, SER adds treatment chemicals in Oil processing. Some polymers contain VOCs that are potentially lost during processing. The emissions summary is as follows:

Annual Oil Throughput lb/yr	Percent Chemical (100 ppm)	Chemical Usage (lb/yr)	Percent VOC	VOC lbs/yr	Percent HAP	HAP lbs/yr
26,422,788.00	0.01%	2,642.28	70%	1849.60	10%	264.23
			Total (ton/yr):	0.92		0.13

Total VOC emissions from the Oil storage and treatment are: **7799.72** lb/yr
3.90 ton/yr

Total single HAP emissions from the Oil storage and treatment are: **677.43** lb/yr
0.34 ton/yr

Total combined HAP emissions from the Oil storage and treatment are: **1917.04** lb/yr
0.96 ton/yr

C. Mineral Spirits and Diesel Storage

1. Breathing Losses

The sum of the breathing losses is as follows:

Tank	Constant	Mv	[P/(Pa-P)]^0.68	D^1.73	H^0.51	dT^0.50	Fp	C	Kc	Percent VOC	Result Lb/Yr	Percent Single HAP	Result Lb/Yr	Percent Combined HAPs	Result Lb/Yr
M1	0.0226	125	0.1	19.09	2.24	4.47	1	0.25	1	100.0%	13.50	0.0%	0.00	0.00%	0.00
M2	0.0226	125	0.1	19.09	2.24	4.47	1	0.25	1	100.0%	13.50	0.0%	0.00	0.00%	0.00
M3	0.0226	125	0.1	19.09	2.24	4.47	1	0.25	1	100.0%	13.50	0.0%	0.00	0.00%	0.00
M4	0.0226	125	0.1	19.09	2.24	4.47	1	0.25	1	100.0%	13.50	0.0%	0.00	0.00%	0.00
M5	0.0226	125	0.1	22.19	2.6	4.47	1	0.25	1	100.0%	18.21	0.0%	0.00	0.00%	0.00
T1	0.0226	75	0.28	53.7	4.4	3.16	1	0.25	1	100.0%	88.59	0.0%	0.00	0.00%	0.00
										Total (lb/yr):	**160.80**		**0.00**		**0.00**
										Total (tons/yr):	**0.08**		**0.00**		**0.00**

Methodology:
The breathing losses are calculated as follows:
Emissions (lb/yr) = 2.26E-2 x Mv x [P/Pa-P]^0.68 x D^1.73 x H^0.51 x dT^0.50 x Fp x C x Kc

Where:	Mv	Molecular Weight of Vapor in the storage tank (lb/lb mole)
	P	Pressure drop in psi
	D	Tank diameter in feet
	H	1/2 Tank height in feet
	dT	Temperature difference F
	C	Adjustment factor for small diameter tanks

2. Working Losses

The sum of the working losses is as follows:

Tank	Constant	Mv	P	V	N	Kn	Kc	Percent VOC	Result Lb/Yr	Percent Single HAP	Result Lb/Yr	Percent Combined HAPs	Result Lb/Yr
M1	0.000024	125	0.5	1,750	26	0.44	1	100.0%	30.03	0.0%	0.00	0.00%	0.00
M2	0.000024	125	0.5	1,750	26	0.44	1	100.0%	30.03	0.0%	0.00	0.00%	0.00
M3	0.000024	125	0.5	1,750	26	0.44	1	100.0%	30.03	0.0%	0.00	0.00%	0.00
M4	0.000024	125	0.5	1,750	26	0.44	1	100.0%	30.03	0.0%	0.00	0.00%	0.00
M5	0.000024	125	0.5	2,750	26	0.44	1	100.0%	47.19	0.0%	0.00	0.00%	0.00
T1	0.000024	75	2	10,500	13	0.44	1	100.0%	216.22				
								Total (lb/yr):	**383.53**		**0.00**		**0.00**
								Total (tons/yr):	**0.19**		**0.00**		**0.00**

Methodology:
The working losses are calculated as follows:
Emissions (lb/yr) = 2.4E-5 x Mv x P x V x N x Kn x Kc

Where:	Mv	Molecular Weight of Vapor in the storage tank (lb/lb mole)
	P	Pressure drop in psi
	V	Tank Volume in gallons
	N	Turnovers per year
	Kn	Adjustment factor for small diameter tanks
	Kc	Product factor

Total VOC emissions from the Oil storage and treatment are: **544.33** lb/yr
0.27 ton/yr

Appendix A: Emission Calculations
VOC
From Degreasing Operation

Company Name: Safety & Environmental Resources, Inc.
Address City IN Zip: 1122 Division Street, Mishawaka, IN 46545
Permit No.: 141-17287
Plt ID: 141-00166
Reviewer: Adeel Yousuf / EVP
Date: 05/12/03

Process	Density (Lb VOC /Gal)	Gal of Mat (gal/unit)	Units (units/hour)	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year
Part washer (2 degreasers)	6.59	90.00	gal/yr	0.07	1.62	0.30
Touchup Painting	3.00	0.25	0.0055	0.0041	0.10	0.02
Total Potential Emissions:				**0.0718**	**1.72**	**0.31**

Methodology:
Potential VOC Pounds per Hour = Density (lb/gal) * Gal of Material (gal/day) / 24 hrs/day
Potential VOC Pounds per Day = Density (lb/gal) * Gal of Material (gal/day)
Potential VOC Tons per Year = Density (lb/gal) * Gal of Material (gal/day) * (365 days/yr) * (1 ton/2000 lbs)

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Safety & Environmental Resources, Inc.
Address City IN Zip: 1122 Division Street, Mishawaka, IN 46545
Permit No.: 141-17287-00166
Reviewer: Adeel Yousuf / EVP
Date: 05/10/03

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
2.7	23.7

One (1) Boiler @ 2.0 MMBtu/hr and two (2) parts washers each @ 0.35 MMBtu/hr

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.0	0.1	0.0	1.2	0.1	1.0

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name: Safety & Environmental Resources, Inc.
Address City IN Zip: 1122 Division Street, Mishawaka, IN 46545
Permit No.: 141-17287-00166
Reviewer: Adeel Yousuf / EVP
Date: 05/10/03

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	2.483E-05	1.419E-05	8.870E-04	2.129E-02	4.021E-05

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	5.913E-06	1.301E-05	1.656E-05	4.494E-06	2.483E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.